

**Amendment and Response Under 37 C.F.R. 1.116**

Applicant: N. Lee Rhodes

Serial No.: 09/919,149

Filed: July 31, 2001

Docket No.: 10013112-1 / H300.177.101

Title: NETWORK USAGE ANALYSIS SYSTEM HAVING DYNAMIC STATISTICAL DATA DISTRIBUTION SYSTEM AND METHOD

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**IN THE CLAIMS**

Please cancel claims 1, 2, 4-9, and 16-21.

Please amend claims 3, 10, 13, 14, and 22 as follows:

1. (Cancelled)

2. (Cancelled)

3. (Currently Amended) ~~The method of claim 2,~~ A method for substantially real-time analyzing of a stream of data comprising:  
receiving the stream of data;  
determining a data distribution representative of the stream of data, including creating data bins on an as needed basis based on the stream of data, the data bins having exponentially increasing sizes; and  
allocating statistical representation of the data in the data bins; and  
using the data distribution to analyze the stream of data;  
wherein creating data bins having exponentially increasing sizes includes indexing the bins using a set of keys determined from a function of the logarithm of the data, determining a set of exponentially increasing intervals to define the data bin sizes; and  
wherein determining the set of keys includes defining a resolution factor as a number of data bins desired per power of the chosen logarithm base; and using the resolution factor to determine the set of exponentially increasing intervals.

4-9. (Cancelled)

10. (Currently Amended) ~~The method of claim 9,~~ A method for substantially real-time analyzing of a stream of data comprising:  
receiving the stream of data;

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determining a data distribution representative of the stream of data, including creating data bins on an as needed basis based on the stream of data, the data bins having exponentially increasing sizes;

allocating statistical representation of the data in the data bins;

using the data distribution to analyze the stream of data;

defining a bin order as an array structure;

storing the bin order in memory; and

storing the data bins in the array structure in memory;

wherein recording statistical data representative of the incoming data value in the data bins includes receiving a data value; computing a bin key associated with the data value; define an array index having an array of index values wherein each array index value is associated with a data bin; determine the data bin associated with the data value using the array index and bin key.

11. (Original) The method of claim 10, further comprising updating the value stored in the data bin.

12. (Original) The method of claim 10, wherein if a data bin cannot be determined, extending the array structure to accommodate the data value.

13. (Currently Amended) ~~The method of claim 9,~~ A method for substantially real-time analyzing of a stream of data comprising:

receiving the stream of data;

determining a data distribution representative of the stream of data, including creating data bins on an as needed basis based on the stream of data, the data bins having exponentially increasing sizes;

allocating statistical representation of the data in the data bins;

using the data distribution to analyze the stream of data;

defining a bin order as an array structure;

storing the bin order in memory;

storing the data bins in the array structure in memory; and

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indexing the bins using a set of keys.

14. (Currently Amended) ~~The method of 9,~~ A method for substantially real-time analyzing of a stream of data comprising:

receiving the stream of data;

determining a data distribution representative of the stream of data, including creating data bins on an as needed basis based on the stream of data, the data bins having exponentially increasing sizes; and

allocating statistical representation of the data in the data bins;

using the data distribution to analyze the stream of data;

defining a bin order as an array structure;

storing the bin order in memory;

storing the data bins in the array structure in memory; and

defining the array structure as a tree array structure.

15. (Original) The method of claim 14, wherein allocating a data value in the tree array structure includes determining a data bin for the data value, and if a data bin does not exist, creating a data bin.

16-21. (Cancelled)

22. (Currently Amended) ~~The method of claim 21,~~ A method for substantially real-time analyzing of a stream of data comprising:

receiving the stream of data;

determining a data distribution representative of the stream of data, including creating data bins on an as needed basis based on the stream of data, the data bins having exponentially increasing sizes;

defining a bin order as an array structure;

storing the bin order in memory;

allocating statistical representation of the data in the data bins; and

using the data distribution to analyze the stream of data;

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wherein creating data bins having exponentially increasing sizes includes indexing the bins using a set of keys determined from a function of the logarithm of the data, and determining a set of exponentially increasing intervals to define the data bin sizes; and

further comprising defining the array structure as a tree array structure, wherein allocating a data value in the tree array structure includes determining a data bin for the data value, and if a data bin does not exist, creating a data bin.